

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/521,596A

Source: Pt 10

Date Processed by STIC: 1/30/05

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PCT

RAW SEQUENCE LISTING

DATE: 01/30/2005

PATENT APPLICATION: US/10/521,596A

TIME: 16:46:07

Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\01302005\J521596A.raw

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3 <110> APPLICANT: KAWAZU, YOICHI
4     SUGIYAMA, KEITA
5     MORIKAWA, TOSHIYUKI
6     SASAYA, TAKAHIDE
8 <120> TITLE OF INVENTION: Nucleic acids encoding mirafiori lettuce viral proteins and
utilization
9     thereof.
11 <130> FILE REFERENCE: 2144.0300000
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/521,596A
14 <141> CURRENT FILING DATE: 2005-01-18
16 <150> PRIOR APPLICATION NUMBER: JP 2002-209805
17 <151> PRIOR FILING DATE: 2002-07-18
19 <160> NUMBER OF SEQ ID NOS: 6
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 1514
25 <212> TYPE: DNA
26 <213> ORGANISM: mirafiori lettuce virus
28 <220> FEATURE:
29 <221> NAME/KEY: CDS
30 <222> LOCATION: (87)..(1400)
32 <400> SEQUENCE: 1
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35 tctttttcaaa gaaaaacaaa gtcaca atg tca gga gta tac aag gtt tcc gga 113
36                               Met Ser Gly Val Tyr Lys Val Ser Gly
37                               1                               5
39 att cag tct atc ttg caa aaa gat gtg act tcc gaa gga gaa aca gct 161
40 Ile Gln Ser Ile Leu Gln Lys Asp Val Thr Ser Glu Gly Glu Thr Ala
41 10                               15                               20                               25
43 att cta att tct ctt ggt ctc atg aca aaa gaa gag aag cct gtt cct 209
44 Ile Leu Ile Ser Leu Gly Leu Met Thr Lys Glu Glu Lys Pro Val Pro
45                               30                               35                               40
47 gca aaa atg gcc atg gtg gca tct gca aaa gca aac tca atc atc ttt 257
48 Ala Lys Met Ala Met Val Ala Ser Ala Lys Ala Asn Ser Ile Ile Phe
49                               45                               50                               55
51 gtt tcg gaa gat ggc tct ttg tct ttt gaa gct cca aaa gaa aca gga 305
52 Val Ser Glu Asp Gly Ser Leu Ser Phe Glu Ala Pro Lys Glu Thr Gly
53                               60                               65                               70
55 gag acc agc aaa cca gga gag aag aaa gag gaa aag aag gta gaa gtg 353
56 Glu Thr Ser Lys Pro Gly Glu Lys Lys Glu Glu Lys Lys Val Glu Val
57                               75                               80                               85
59 gga gtc aag ttt cct ttc agc gca gcc aaa gta aag gag cta att gaa 401
60 Gly Val Lys Phe Pro Phe Ser Ala Ala Lys Val Lys Glu Leu Ile Glu
61 90                               95                               100                               105

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63 ggg aaa agt ctt act ttg gat cag gac aaa atc caa aaa gtg ctg gaa 449
64 Gly Lys Ser Leu Thr Leu Asp Gln Asp Lys Ile Gln Lys Val Leu Glu
65 110 115 120
67 gaa tat gtt aag aat ttg cca agg act gct gag act tac aaa cca aaa 497
68 Glu Tyr Val Lys Asn Leu Pro Arg Thr Ala Glu Thr Tyr Lys Pro Lys
69 125 130 135
71 gag att gag atc aaa tgt ttc aag ggt gtt gac ttc agt ata agc agt 545
72 Glu Ile Glu Ile Lys Cys Phe Lys Gly Val Asp Phe Ser Ile Ser Ser
73 140 145 150
75 ttg ctt tct tca ggg acc aaa atc tta gat gct att ctt tac agt act 593
76 Leu Leu Ser Ser Gly Thr Lys Ile Leu Asp Ala Ile Leu Tyr Ser Thr
77 155 160 165
79 tac aag gat tca gca gag cac aac ttc ata ttt gat gtg aaa gtt cta 641
80 Tyr Lys Asp Ser Ala Glu His Asn Phe Ile Phe Asp Val Lys Val Leu
81 170 175 180 185
83 tct cct gat ttc atc gat agc aag tta ctc gtg aac aac atc gaa aca 689
84 Ser Pro Asp Phe Ile Asp Ser Lys Leu Leu Val Asn Asn Ile Glu Thr
85 190 195 200
87 ggc aat cga gca atc aaa gca gct ttc tgt ctt gtt tac aat caa ggt 737
88 Gly Asn Arg Ala Ile Lys Ala Ala Phe Cys Leu Val Tyr Asn Gln Gly
89 205 210 215
91 gga ttg cca tca aag acg agt gaa gaa cga cca cta tct aag ttt gta 785
92 Gly Leu Pro Ser Lys Thr Ser Glu Glu Arg Pro Leu Ser Lys Phe Val
93 220 225 230
95 aga gaa acg ata ttc cgt gag aaa gat ctc aaa gct aac gag tta tgt 833
96 Arg Glu Thr Ile Phe Arg Glu Lys Asp Leu Lys Ala Asn Glu Leu Cys
97 235 240 245
99 gaa tat ctg tca tca gca gat cct tct ttg ttt cca agt caa gtc ttt 881
100 Glu Tyr Leu Ser Ser Ala Asp Pro Ser Leu Phe Pro Ser Gln Val Phe
101 250 255 260 265
103 ttg aaa atc tca ctt gaa aac ctt cct act gag gtt tca tca cgt tgc 929
104 Leu Lys Ile Ser Leu Glu Asn Leu Pro Thr Glu Val Ser Ser Arg Cys
105 270 275 280
107 aag atg tcg att gcg ggc aac aaa gca atg aga tat gca ctc tta gct 977
108 Lys Met Ser Ile Ala Gly Asn Lys Ala Met Arg Tyr Ala Leu Leu Ala
109 285 290 295
111 caa aag ttt gac aaa gat gaa att cca gtt cca aca gaa gtg aat cct 1025
112 Gln Lys Phe Asp Lys Asp Glu Ile Pro Val Pro Thr Glu Val Asn Pro
113 300 305 310
115 aca act agc tca gaa tac atg cag aaa aag gag aaa ata gaa aaa gca 1073
116 Thr Thr Ser Ser Glu Tyr Met Gln Lys Lys Glu Lys Ile Glu Lys Ala
117 315 320 325
119 aaa aag ata gtt gat gtt cta tgt tct ctt gct tct gac ttc cag gca 1121
120 Lys Lys Ile Val Asp Val Leu Cys Ser Leu Ala Ser Asp Phe Gln Ala
121 330 335 340 345
123 caa gtg aaa atg cat cct ctc tcc cct gag aga tca tcg agg aag aat 1169
124 Gln Val Lys Met His Pro Leu Ser Pro Glu Arg Ser Ser Arg Lys Asn
125 350 355 360
127 ttc act ctg caa ttg act tct gca att gtt act tca ctt tcc tac aaa 1217

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128 Phe Thr Leu Gln Leu Thr Ser Ala Ile Val Thr Ser Leu Ser Tyr Lys
129          365          370          375
131 ggg agg tta gac atg aga aaa gca atc gaa gag aaa aag ata gag gct 1265
132 Gly Arg Leu Asp Met Arg Lys Ala Ile Glu Glu Lys Lys Ile Glu Ala
133          380          385          390
135 ttc aaa aga gat gaa aat ata ttt gga agg tta aat gct ctt gga caa 1313
136 Phe Lys Arg Asp Glu Asn Ile Phe Gly Arg Leu Asn Ala Leu Gly Gln
137          395          400          405
139 ccc acg ttt cct gtt ctg act aac gca gat gct gac ttt tct gaa ttg 1361
140 Pro Thr Phe Pro Val Leu Thr Asn Ala Asp Ala Asp Phe Ser Glu Leu
141 410          415          420          425
143 tca gtt gag gcc gtg aag aca gct tac gga aag aaa tga gggcagaatc 1410
144 Ser Val Glu Ala Val Lys Thr Ala Tyr Gly Lys Lys
145          430          435
147 ggagtgaata gtgaagaatg tggaattgtg gacagatttg cttttttccg cttatccttt 1470
149 gcgataggga gtatgtgaac tgatagtttt aataaaaaaac tatc 1514
152 <210> SEQ ID NO: 2
153 <211> LENGTH: 437
154 <212> TYPE: PRT
155 <213> ORGANISM: mirafiori lettuce virus
157 <400> SEQUENCE: 2
158 Met Ser Gly Val Tyr Lys Val Ser Gly Ile Gln Ser Ile Leu Gln Lys
159 1 5 10 15
160 Asp Val Thr Ser Glu Gly Glu Thr Ala Ile Leu Ile Ser Leu Gly Leu
161 20 25 30
162 Met Thr Lys Glu Glu Lys Pro Val Pro Ala Lys Met Ala Met Val Ala
163 35 40 45
164 Ser Ala Lys Ala Asn Ser Ile Ile Phe Val Ser Glu Asp Gly Ser Leu
165 50 55 60
166 Ser Phe Glu Ala Pro Lys Glu Thr Gly Glu Thr Ser Lys Pro Gly Glu
167 65 70 75 80
168 Lys Lys Glu Glu Lys Lys Val Glu Val Gly Val Lys Phe Pro Phe Ser
169 85 90 95
170 Ala Ala Lys Val Lys Glu Leu Ile Glu Gly Lys Ser Leu Thr Leu Asp
171 100 105 110
172 Gln Asp Lys Ile Gln Lys Val Leu Glu Glu Tyr Val Lys Asn Leu Pro
173 115 120 125
174 Arg Thr Ala Glu Thr Tyr Lys Pro Lys Glu Ile Glu Ile Lys Cys Phe
175 130 135 140
176 Lys Gly Val Asp Phe Ser Ile Ser Ser Leu Leu Ser Ser Gly Thr Lys
177 145 150 155 160
178 Ile Leu Asp Ala Ile Leu Tyr Ser Thr Tyr Lys Asp Ser Ala Glu His
179 165 170 175
180 Asn Phe Ile Phe Asp Val Lys Val Leu Ser Pro Asp Phe Ile Asp Ser
181 180 185 190
182 Lys Leu Leu Val Asn Asn Ile Glu Thr Gly Asn Arg Ala Ile Lys Ala
183 195 200 205
184 Ala Phe Cys Leu Val Tyr Asn Gln Gly Gly Leu Pro Ser Lys Thr Ser
185 210 215 220

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186 Glu Glu Arg Pro Leu Ser Lys Phe Val Arg Glu Thr Ile Phe Arg Glu
187 225                230                235                240
188 Lys Asp Leu Lys Ala Asn Glu Leu Cys Glu Tyr Leu Ser Ser Ala Asp
189                245                250                255
190 Pro Ser Leu Phe Pro Ser Gln Val Phe Leu Lys Ile Ser Leu Glu Asn
191                260                265                270
192 Leu Pro Thr Glu Val Ser Ser Arg Cys Lys Met Ser Ile Ala Gly Asn
193                275                280                285
194 Lys Ala Met Arg Tyr Ala Leu Leu Ala Gln Lys Phe Asp Lys Asp Glu
195                290                295                300
196 Ile Pro Val Pro Thr Glu Val Asn Pro Thr Thr Ser Ser Glu Tyr Met
197 305                310                315                320
198 Gln Lys Lys Glu Lys Ile Glu Lys Ala Lys Lys Ile Val Asp Val Leu
199                325                330                335
200 Cys Ser Leu Ala Ser Asp Phe Gln Ala Gln Val Lys Met His Pro Leu
201                340                345                350
202 Ser Pro Glu Arg Ser Ser Arg Lys Asn Phe Thr Leu Gln Leu Thr Ser
203                355                360                365
204 Ala Ile Val Thr Ser Leu Ser Tyr Lys Gly Arg Leu Asp Met Arg Lys
205                370                375                380
206 Ala Ile Glu Glu Lys Lys Ile Glu Ala Phe Lys Arg Asp Glu Asn Ile
207 385                390                395                400
208 Phe Gly Arg Leu Asn Ala Leu Gly Gln Pro Thr Phe Pro Val Leu Thr
209                405                410                415
210 Asn Ala Asp Ala Asp Phe Ser Glu Leu Ser Val Glu Ala Val Lys Thr
211                420                425                430
212 Ala Tyr Gly Lys Lys
213                435

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216 <210> SEQ ID NO: 3

217 <211> LENGTH: 6

218 <212> TYPE: PRT

219 <213> ORGANISM: mirafiori lettuce virus

221 <400> SEQUENCE: 3

222 Glu Gly Glu Thr Ala Ile

223 1 5

226 <210> SEQ ID NO: 4

227 <211> LENGTH: 6

228 <212> TYPE: PRT

229 <213> ORGANISM: mirafiori lettuce virus

231 <400> SEQUENCE: 4

232 Leu Pro Thr Glu Val Ser

233 1 5

236 <210> SEQ ID NO: 5

237 <211> LENGTH: 17

238 <212> TYPE: DNA

239 <213> ORGANISM: Artificial Sequence

241 <220> FEATURE:

242 <223> OTHER INFORMATION: Description of Artificial Sequence:an artificially
 243 synthesized primer sequence

RAW SEQUENCE LISTING

DATE: 01/30/2005

PATENT APPLICATION: US/10/521,596A

TIME: 16:46:07

Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\01302005\J521596A.raw

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245 <220> FEATURE:
246 <221> NAME/KEY: modified_base
247 <222> LOCATION: (6)
248 <223> OTHER INFORMATION: i
250 <220> FEATURE:
251 <221> NAME/KEY: modified_base
252 <222> LOCATION: (12)
253 <223> OTHER INFORMATION: i
255 <220> FEATURE:
256 <221> NAME/KEY: modified_base
257 <222> LOCATION: (15)
258 <223> OTHER INFORMATION: i
260 <400> SEQUENCE: 5
W--> 261 gargngara cngcnat 17
264 <210> SEQ ID NO: 6
265 <211> LENGTH: 17
266 <212> TYPE: DNA
267 <213> ORGANISM: Artificial Sequence
269 <220> FEATURE:
270 <223> OTHER INFORMATION: Description of Artificial Sequence:an artificially
271     synthesized primer sequence
273 <220> FEATURE:
274 <221> NAME/KEY: modified_base
275 <222> LOCATION: (3)
276 <223> OTHER INFORMATION: i
278 <220> FEATURE:
279 <221> NAME/KEY: modified_base
280 <222> LOCATION: (9)
281 <223> OTHER INFORMATION: i
283 <220> FEATURE:
284 <221> NAME/KEY: modified_base
285 <222> LOCATION: (12)
286 <223> OTHER INFORMATION: i
288 <220> FEATURE:
289 <221> NAME/KEY: modified_base
290 <222> LOCATION: (15)
291 <223> OTHER INFORMATION: i
293 <400> SEQUENCE: 6
W--> 294 swnacytcng tnggnar 17

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 01/30/2005
PATENT APPLICATION: US/10/521,596A TIME: 16:46:08

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\01302005\J521596A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; N Pos. 6,12,15

Seq#:6; N Pos. 3,9,12,15

VERIFICATION SUMMARY

DATE: 01/30/2005

PATENT APPLICATION: US/10/521,596A

TIME: 16:46:08

Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\01302005\J521596A.raw

L:13 M:270 C: Current Application Number differs, Replaced Application Number

L:261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0

L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/521,596

Source: PU/10

Date Processed by STIC: 1/30/05

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 01/30/2005

PATENT APPLICATION: US/10/521,596

TIME: 16:45:19

Input Set : A:\pto.yf.txt

Output Set: N:\CRF4\01302005\J521596.raw

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3 <110> APPLICANT: National Agricultural Research Organization
5 <120> TITLE OF INVENTION: Nucleic acids encoding mirafiori lettuce viral proteins and
utilization
6     thereof.
8 <130> FILE REFERENCE: ARO-A0202P
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/521,596
C--> 10 <141> CURRENT FILING DATE: 2005-01-18
10 <150> PRIOR APPLICATION NUMBER: JP 2002-209805
11 <151> PRIOR FILING DATE: 2002-07-18
13 <160> NUMBER OF SEQ ID NOS: 6
15 <170> SOFTWARE: PatentIn Ver. 2.1
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 1514
19 <212> TYPE: DNA
20 <213> ORGANISM: mirafiori lettuce virus
22 <220> FEATURE:
23 <221> NAME/KEY: CDS
24 <222> LOCATION: (87)..(1400)
26 <400> SEQUENCE: 1
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29 tcttttcaaa gaaaaacaaa gtcaca atg tca gga gta tac aag gtt tcc gga 113
30     Met Ser Gly Val Tyr Lys Val Ser Gly
31     1 5
33 att cag tct atc ttg caa aaa gat gtg act tcc gaa gga gaa aca gct 161
34 Ile Gln Ser Ile Leu Gln Lys Asp Val Thr Ser Glu Gly Glu Thr Ala
35 10 15 20 25
37 att cta att tct ctt ggt ctc atg aca aaa gaa gag aag cct gtt cct 209
38 Ile Leu Ile Ser Leu Gly Leu Met Thr Lys Glu Glu Lys Pro Val Pro
39 30 35 40
41 gca aaa atg gcc atg gtg gca tct gca aaa gca aac tca atc atc ttt 257
42 Ala Lys Met Ala Met Val Ala Ser Ala Lys Ala Asn Ser Ile Ile Phe
43 45 50 55
45 gtt tcg gaa gat ggc tct ttg tct ttt gaa gct cca aaa gaa aca gga 305
46 Val Ser Glu Asp Gly Ser Leu Ser Phe Glu Ala Pro Lys Glu Thr Gly
47 60 65 70
49 gag acc agc aaa cca gga gag aag aaa gag gaa aag aag gta gaa gtg 353
50 Glu Thr Ser Lys Pro Gly Glu Lys Lys Glu Glu Lys Lys Val Glu Val
51 75 80 85
53 gga gtc aag ttt cct ttc agc gca gcc aaa gta aag gag cta att gaa 401
54 Gly Val Lys Phe Pro Phe Ser Ala Ala Lys Val Lys Glu Leu Ile Glu
55 90 95 100 105
57 ggg aaa agt ctt act ttg gat cag gac aaa atc caa aaa gtg ctg gaa 449
58 Gly Lys Ser Leu Thr Leu Asp Gln Asp Lys Ile Gln Lys Val Leu Glu
59 110 115 120

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61 gaa tat gtt aag aat ttg cca agg act gct gag act tac aaa cca aaa 497
62 Glu Tyr Val Lys Asn Leu Pro Arg Thr Ala Glu Thr Tyr Lys Pro Lys
63      125      130      135
65 gag att gag atc aaa tgt ttc aag ggt gtt gac ttc agt ata agc agt 545
66 Glu Ile Glu Ile Lys Cys Phe Lys Gly Val Asp Phe Ser Ile Ser Ser
67      140      145      150
69 ttg ctt tct tca ggg acc aaa atc tta gat gct att ctt tac agt act 593
70 Leu Leu Ser Ser Gly Thr Lys Ile Leu Asp Ala Ile Leu Tyr Ser Thr
71      155      160      165
73 tac aag gat tca gca gag cac aac ttc ata ttt gat gtg aaa gtt cta 641
74 Tyr Lys Asp Ser Ala Glu His Asn Phe Ile Phe Asp Val Lys Val Leu
75 170      175      180      185
77 tct cct gat ttc atc gat agc aag tta ctc gtg aac aac atc gaa aca 689
78 Ser Pro Asp Phe Ile Asp Ser Lys Leu Leu Val Asn Asn Ile Glu Thr
79      190      195      200
81 ggc aat cga gca atc aaa gca gct ttc tgt ctt gtt tac aat caa ggt 737
82 Gly Asn Arg Ala Ile Lys Ala Ala Phe Cys Leu Val Tyr Asn Gln Gly
83      205      210      215
85 gga ttg cca tca aag acg agt gaa gaa cga cca cta tct aag ttt gta 785
86 Gly Leu Pro Ser Lys Thr Ser Glu Glu Arg Pro Leu Ser Lys Phe Val
87      220      225      230
89 aga gaa acg ata ttc cgt gag aaa gat ctc aaa gct aac gag tta tgt 833
90 Arg Glu Thr Ile Phe Arg Glu Lys Asp Leu Lys Ala Asn Glu Leu Cys
91      235      240      245
93 gaa tat ctg tca tca gca gat cct tct ttg ttt cca agt caa gtc ttt 881
94 Glu Tyr Leu Ser Ser Ala Asp Pro Ser Leu Phe Pro Ser Gln Val Phe
95 250      255      260      265
97 ttg aaa atc tca ctt gaa aac ctt cct act gag gtt tca tca cgt tgc 929
98 Leu Lys Ile Ser Leu Glu Asn Leu Pro Thr Glu Val Ser Ser Arg Cys
99      270      275      280
101 aag atg tcg att gcg ggc aac aaa gca atg aga tat gca ctc tta gct 977
102 Lys Met Ser Ile Ala Gly Asn Lys Ala Met Arg Tyr Ala Leu Leu Ala
103      285      290      295
105 caa aag ttt gac aaa gat gaa att cca gtt cca aca gaa gtg aat cct 1025
106 Gln Lys Phe Asp Lys Asp Glu Ile Pro Val Pro Thr Glu Val Asn Pro
107      300      305      310
109 aca act agc tca gaa tac atg cag aaa aag gag aaa ata gaa aaa gca 1073
110 Thr Thr Ser Ser Glu Tyr Met Gln Lys Lys Glu Lys Ile Glu Lys Ala
111      315      320      325
113 aaa aag ata gtt gat gtt cta tgt tct ctt gct tct gac ttc cag gca 1121
114 Lys Lys Ile Val Asp Val Leu Cys Ser Leu Ala Ser Asp Phe Gln Ala
115 330      335      340      345
117 caa gtg aaa atg cat cct ctc tcc cct gag aga tca tcg agg aag aat 1169
118 Gln Val Lys Met His Pro Leu Ser Pro Glu Arg Ser Ser Arg Lys Asn
119      350      355      360
121 ttc act ctg caa ttg act tct gca att gtt act tca ctt tcc tac aaa 1217
122 Phe Thr Leu Gln Leu Thr Ser Ala Ile Val Thr Ser Leu Ser Tyr Lys
123      365      370      375
125 ggg agg tta gac atg aga aaa gca atc gaa gag aaa aag ata gag gct 1265

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126 Gly Arg Leu Asp Met Arg Lys Ala Ile Glu Glu Lys Lys Ile Glu Ala
127          380          385          390
129 ttc aaa aga gat gaa aat ata ttt gga agg tta aat gct ctt gga caa 1313
130 Phe Lys Arg Asp Glu Asn Ile Phe Gly Arg Leu Asn Ala Leu Gly Gln
131          395          400          405
133 ccc acg ttt cct gtt ctg act aac gca gat gct gac ttt tct gaa ttg 1361
134 Pro Thr Phe Pro Val Leu Thr Asn Ala Asp Ala Asp Phe Ser Glu Leu
135 410          415          420          425
137 tca gtt gag gcc gtg aag aca gct tac gga aag aaa tga gggcagaatc 1410
138 Ser Val Glu Ala Val Lys Thr Ala Tyr Gly Lys Lys
139          430          435
141 ggagtgaata gtgaagaatg tggaattgtg gacagatttg cttttttccg cttatccttt 1470
143 gcgataggga gtatgtgaac tgatagtttt aataaaaaaac tatc 1514
146 <210> SEQ ID NO: 2
147 <211> LENGTH: 437
148 <212> TYPE: PRT
149 <213> ORGANISM: mirafiori lettuce virus
151 <400> SEQUENCE: 2
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154 Asp Val Thr Ser Glu Gly Glu Thr Ala Ile Leu Ile Ser Leu Gly Leu
155 20 25 30
156 Met Thr Lys Glu Glu Lys Pro Val Pro Ala Lys Met Ala Met Val Ala
157 35 40 45
158 Ser Ala Lys Ala Asn Ser Ile Ile Phe Val Ser Glu Asp Gly Ser Leu
159 50 55 60
160 Ser Phe Glu Ala Pro Lys Glu Thr Gly Glu Thr Ser Lys Pro Gly Glu
161 65 70 75 80
162 Lys Lys Glu Glu Lys Lys Val Glu Val Gly Val Lys Phe Pro Phe Ser
163 85 90 95
164 Ala Ala Lys Val Lys Glu Leu Ile Glu Gly Lys Ser Leu Thr Leu Asp
165 100 105 110
166 Gln Asp Lys Ile Gln Lys Val Leu Glu Glu Tyr Val Lys Asn Leu Pro
167 115 120 125
168 Arg Thr Ala Glu Thr Tyr Lys Pro Lys Glu Ile Glu Ile Lys Cys Phe
169 130 135 140
170 Lys Gly Val Asp Phe Ser Ile Ser Ser Leu Leu Ser Ser Gly Thr Lys
171 145 150 155 160
172 Ile Leu Asp Ala Ile Leu Tyr Ser Thr Tyr Lys Asp Ser Ala Glu His
173 165 170 175
174 Asn Phe Ile Phe Asp Val Lys Val Leu Ser Pro Asp Phe Ile Asp Ser
175 180 185 190
176 Lys Leu Leu Val Asn Asn Ile Glu Thr Gly Asn Arg Ala Ile Lys Ala
177 195 200 205
178 Ala Phe Cys Leu Val Tyr Asn Gln Gly Gly Leu Pro Ser Lys Thr Ser
179 210 215 220
180 Glu Glu Arg Pro Leu Ser Lys Phe Val Arg Glu Thr Ile Phe Arg Glu
181 225 230 235 240
182 Lys Asp Leu Lys Ala Asn Glu Leu Cys Glu Tyr Leu Ser Ser Ala Asp

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183          245          250          255
184 Pro Ser Leu Phe Pro Ser Gln Val Phe Leu Lys Ile Ser Leu Glu Asn
185          260          265          270
186 Leu Pro Thr Glu Val Ser Ser Arg Cys Lys Met Ser Ile Ala Gly Asn
187          275          280          285
188 Lys Ala Met Arg Tyr Ala Leu Ala Gln Lys Phe Asp Lys Asp Glu
189          290          295          300
190 Ile Pro Val Pro Thr Glu Val Asn Pro Thr Thr Ser Ser Glu Tyr Met
191 305          310          315          320
192 Gln Lys Lys Glu Lys Ile Glu Lys Ala Lys Lys Ile Val Asp Val Leu
193          325          330          335
194 Cys Ser Leu Ala Ser Asp Phe Gln Ala Gln Val Lys Met His Pro Leu
195          340          345          350
196 Ser Pro Glu Arg Ser Ser Arg Lys Asn Phe Thr Leu Gln Leu Thr Ser
197          355          360          365
198 Ala Ile Val Thr Ser Leu Ser Tyr Lys Gly Arg Leu Asp Met Arg Lys
199          370          375          380
200 Ala Ile Glu Glu Lys Lys Ile Glu Ala Phe Lys Arg Asp Glu Asn Ile
201 385          390          395          400
202 Phe Gly Arg Leu Asn Ala Leu Gly Gln Pro Thr Phe Pro Val Leu Thr
203          405          410          415
204 Asn Ala Asp Ala Asp Phe Ser Glu Leu Ser Val Glu Ala Val Lys Thr
205          420          425          430
206 Ala Tyr Gly Lys Lys
207          435
210 <210> SEQ ID NO: 3
211 <211> LENGTH: 6
212 <212> TYPE: PRT
213 <213> ORGANISM: mirafiori lettuce virus
215 <400> SEQUENCE: 3
216 Glu Gly Glu Thr Ala Ile
217 1 5
220 <210> SEQ ID NO: 4
221 <211> LENGTH: 6
222 <212> TYPE: PRT
223 <213> ORGANISM: mirafiori lettuce virus
225 <400> SEQUENCE: 4
226 Leu Pro Thr Glu Val Ser
227 1 5
230 <210> SEQ ID NO: 5
231 <211> LENGTH: 17
232 <212> TYPE: DNA
233 <213> ORGANISM: Artificial Sequence
235 <220> FEATURE:
236 <223> OTHER INFORMATION: Description of Artificial Sequence:an artificially
237 synthesized primer sequence
239 <220> FEATURE:
240 <221> NAME/KEY: modified_base
241 <222> LOCATION: (6)

```

RAW SEQUENCE LISTING

DATE: 01/30/2005

PATENT APPLICATION: US/10/521,596

TIME: 16:45:19

Input Set : A:\pto.yf.txt

Output Set: N:\CRF4\01302005\J521596.raw

```

242 <223> OTHER INFORMATION: i
244 <220> FEATURE:
245 <221> NAME/KEY: modified_base
246 <222> LOCATION: (12)
247 <223> OTHER INFORMATION: i
249 <220> FEATURE:
250 <221> NAME/KEY: modified_base
251 <222> LOCATION: (15)
252 <223> OTHER INFORMATION: i
254 <400> SEQUENCE: 5
W--> 255 garggngara cngcnat 17
258 <210> SEQ ID NO: 6
259 <211> LENGTH: 17
260 <212> TYPE: DNA
261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:
264 <223> OTHER INFORMATION: Description of Artificial Sequence:an artificially
265     synthesized primer sequence
267 <220> FEATURE:
268 <221> NAME/KEY: modified_base
269 <222> LOCATION: (3)
270 <223> OTHER INFORMATION: i
272 <220> FEATURE:
273 <221> NAME/KEY: modified_base
274 <222> LOCATION: (9)
275 <223> OTHER INFORMATION: i
277 <220> FEATURE:
278 <221> NAME/KEY: modified_base
279 <222> LOCATION: (12)
280 <223> OTHER INFORMATION: i
282 <220> FEATURE:
283 <221> NAME/KEY: modified_base
284 <222> LOCATION: (15)
285 <223> OTHER INFORMATION: i
287 <400> SEQUENCE: 6
W--> 288 swnacytcng tnggnar 17

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/521,596

DATE: 01/30/2005
TIME: 16:45:20

Input Set : A:\pto.yf.txt
Output Set: N:\CRF4\01302005\J521596.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; N Pos. 6,12,15

Seq#:6; N Pos. 3,9,12,15

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/521,596

DATE: 01/30/2005

TIME: 16:45:20

Input Set : A:\pto.yf.txt

Output Set: N:\CRF4\01302005\J521596.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:255 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0

L:288 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0